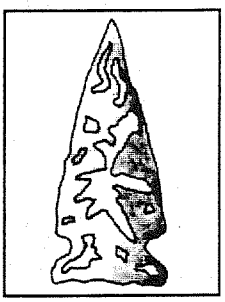
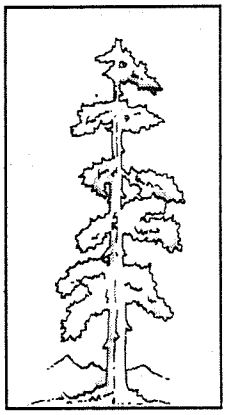
BIOLOGICAL EVALUATION OF THE PROPOSED IN-SITU LEACHING SITE NEAR FLORENCE, ARIZONA

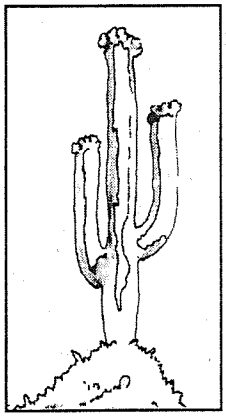
EXTRA COPIES

Submitted to

MAGMA COPPER COMPANY







Submitted by

SWCA, INC.
Environmental Consultants

JULY 1995

BIOLOGICAL EVALUATION OF THE PROPOSED IN-SITU LEACHING SITE NEAR FLORENCE, ARIZONA

Submitted to

MAGMA COPPER COMPANY
14605 East Hunt Highway
Florence, Arizona 85232
(520) 868-5094

Submitted by

SWCA, INC.
Environmental Consultants
4601 East First Street
Tucson, Arizona 85711
(520) 325-9194

July 10, 1995

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EXECUTIVE SUMMARY

SWCA completed a biological evaluation of Magma Copper Company's approximately 620-acre proposed in-situ leaching site near Florence, Pinal County, Arizona. The site is bisected by the Northside Canal, an irrigation canal constructed by the San Carlos Irrigation District. The southern half of the site is irrigated farmland and the north half is representative of the creosote bush community of the Sonoran desertscrub biome. Much of the northern half has been disturbed by roads, earthmoving, berms, culverts, and farming activities. Two small xeroriparian drainages traverse the western one-third of the site and a third small wash cuts across the northeastern corner. Other than berms and disturbed areas, there is little topographic relief on the site. Of the 10 special-status species of concern to the U.S. Fish and Wildlife Service (USFWS), none are likely to occur regularly on the project site and the proposed project is unlikely to adversely impact any special-status species.

INTRODUCTION

Magma Copper Company proposes to build an in-situ leaching facility on its property near Florence, Pinal County, Arizona. This biological evaluation describes the vegetative communities on the property and evaluates the potential for occurrence of threatened, endangered, or other special-status species of concern to the U.S. Fish and Wildlife Service (USFWS).

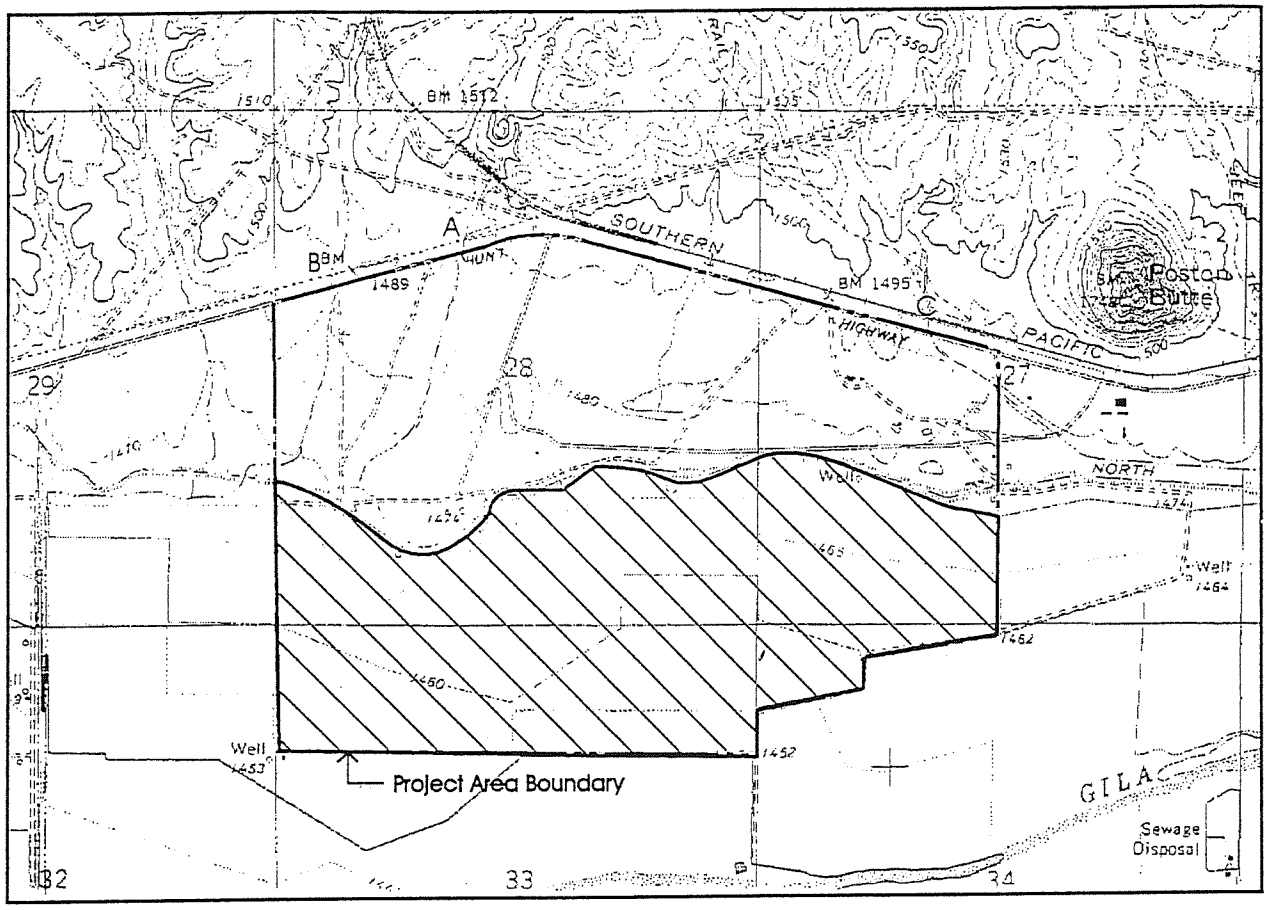
The property, approximately 620 acres, is bounded on the north by Hunt Highway and to the east, south, and west by unpaved roads (Figure 1). The project area is located in the southern 2/3 of Section 28, the northern 1/4 of Section 33, and the southern 1/4 of section 27, T4S, R9E; as depicted on the US Geological Survey 7.5 minute topographic map for Florence, Arizona, approximately 1.5 miles northwest of the city of Florence. Elevations range from 1450 to 1490 feet, with a slope to the south of approximate 40 ft per mile. Base material is Quaternary sand and gravel deposited by the Gila River. The nearest geological feature of interest is Poston Butte, a small basalt hill reaching 1748 ft in elevation. This feature is part of the Superstition volcanic field, less than two million years old. Irrigated wheatfields comprise the southern portion of the project site while the northern portion has been extensively disturbed by human-related activities. Bisecting the property from east to west is the Northside Canal. Surface water drainages are ephemeral, and generally flow from north to south (toward the Gila River). Natural drainage patterns have been extensively altered by the presence of culverts, elevated roads and berms on the property which have been blocked by the Northside Canal.

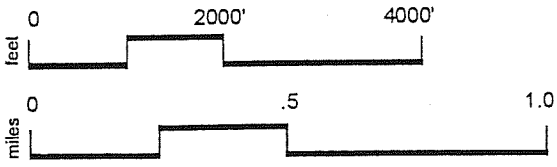
The property lies approximately one half mile from the Gila River, which is normally dry at this point because the Ashurst-Hayden Dam, approximately 10 miles upstream, diverts its flow. There is no indication of recent flooding of the Gila River affecting this property or of present surface drainage reaching the Gila River. The Gila River is normally dry for more than 50 miles downstream from the Ashurst-Hayden Dam.

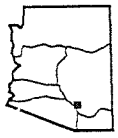
SWCA visited the project area on 21 March 1995 to characterize the vegetative communities and assess the potential for occurrence of special-status species. A list of special-status species potentially occurring in the study area was requested from the USFWS, and is presented in Table 1. Copies of coordination letters received from USFWS and Arizona Game and Fish Department (AGFD) are provided in Appendix A.

VEGETATION AND HABITAT DESCRIPTION

The study area lies within the Sonoran Desertscrub biome. Based on dominant vegetation and condition, the area can be divided into three plant communities or habitats: Creosotebush, Riparian Scrub, and Agricultural Fields (Figure 2). All have been impacted to varying degrees by past human activities such as agricultural and mineral development, roads, and off-road vehicle use. Each of these habitat types is described in greater detail below.







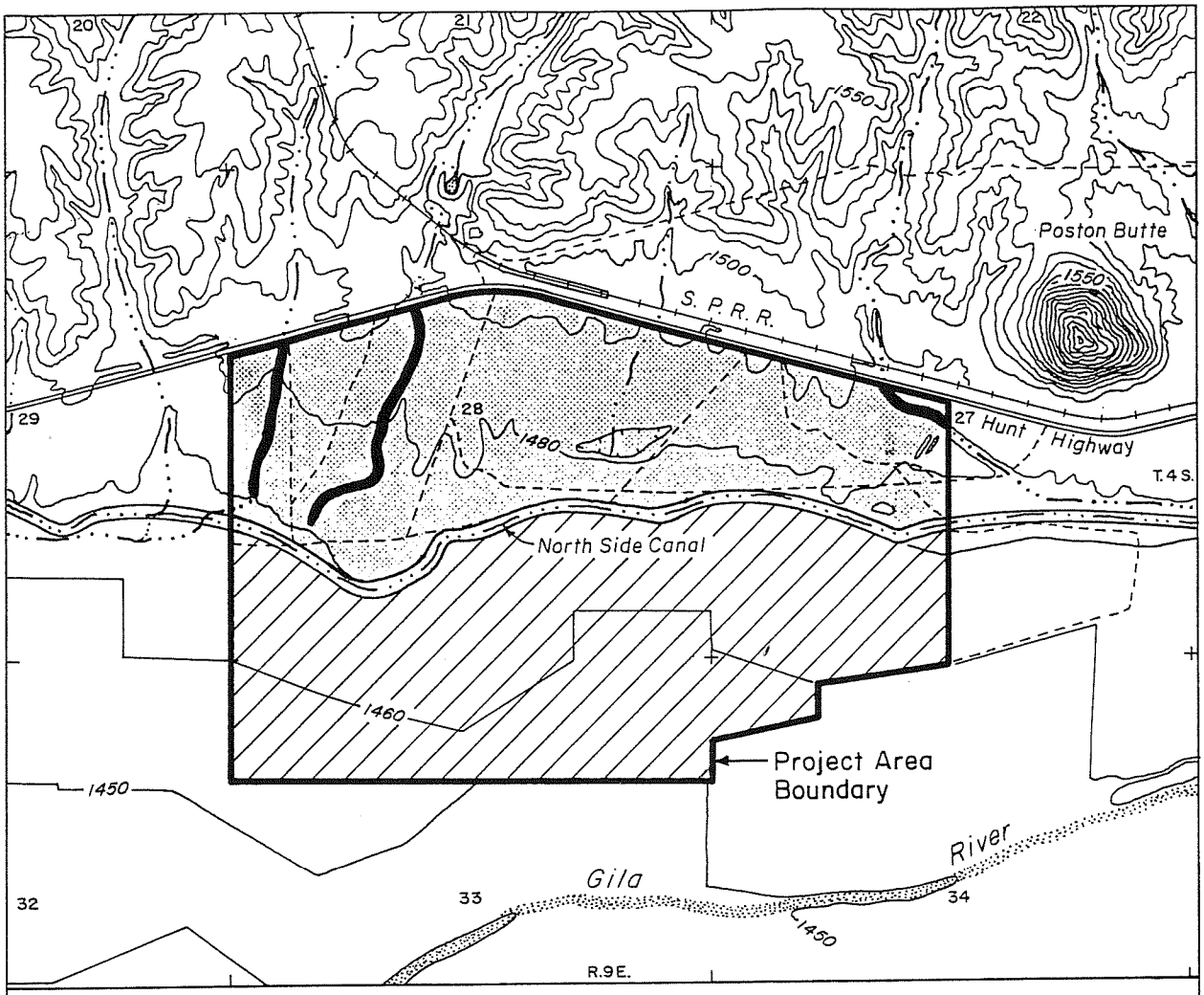
Project Location

Area Under Irrigation

Mayma Copper Company
Proposed In-Situ Leaching
Project.

Figure 1.
Project Location Map

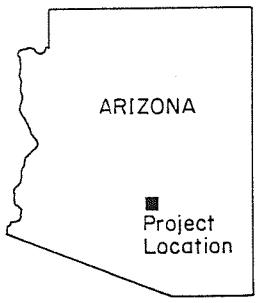
SWCA Inc. Environmental Consultants	Proj. No. 51-51019	Drawn By: MRA	Date: 3/27/95
	File Name: P-345.cdr	Checked By: KL	Revision Date:



Xeroriparian

Agricultural fields

Creosote bush



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Magma Copper Company
Proposed In-Situ Leaching Project.

Figure 2.
Vegetation Communities.

SWCA Inc. Environmental Consultants	Proj. No. 51-51019	Drawn By: CS	Date: 6/28/95
	File Name:	Checked By:	Revision Date:

CREOSOTEBUSH HABITAT

Creosotebush (*Larrea tridentata*) is the dominant plant in the study area in the northern, non-agricultural portion. This community grades into riparian scrub along the three ephemeral drainages. Other species commonly occurring in this creosotebush habitat include red brome (*Bromus rubens*), saguaro (*Carnegia gigantea*), fiddleneck (*Amsinckia tessellata*), mesquite (*Prosopis juliflora*), blue palo verde (*Cercidium floridum*), foothill palo verde (*Cercidium microphyllum*), catclaw acacia (*Acacia greggii*), and triangle-leaf bursage (*Ambrosia deltoidea*). Portions of this community on the project area have been disturbed by dirt roads and berming.

XERORIPARIAN SCRUB HABITATS

This habitat type is found along three small drainages in the northern portion of the property. Plant species within these xeroriparian habitats include mesquite, wolfberry (*Lycium* sp.), catclaw acacia, ironwood (*Olneya tesota*), blue palo verde, foothills palo verde, creosotebush, red brome, desert broom (*Baccharis sarothroides*), and triangle-leaf bursage. The density and size of vegetation along these small washes are somewhat greater than that of the creosotebush community, as is typical of desert xeroriparian habitats. Development of the xeroriparian habitat is not significant due to its fragmentation caused by disturbance from human activity, including channeling and berming.

AGRICULTURAL FIELDS

Approximately the southern half of the project site is irrigated land under agricultural production (primarily wheat).

SPECIAL-SPECIES EVALUATIONS

A list of special-status species potentially occurring in the study area was received from USFWS (letter dated June 5, reference AESO/SE 2-21-95-I-244) and is provided in Table 1. The potential for occurrence of each species in the project area was evaluated by comparing its known habitat requirements with the habitats and conditions present on the site.

Table 1. Special-status species considered in this biological evaluation.

Species		Status
Lesser long-nosed bat	*(Leptonycteris curasoae yerbabuenae)*	Federal endangered[1] State endangered[2]
American peregrine falcon	*(Falco peregrinus anatum)*	Federal endangered State endangered
Cactus ferruginous pygmy-owl	*(Glaucidium brasilianum cactorum)*	Federal proposed endangered[3] State endangered
California leaf-nosed bat	*(Macrotus californicus)*	Federal candidate category 2[4] State candidate[5]
Greater western mastiff-bat	*(Eumops perotis californicus)*	Federal candidate category 2 No state status
Cave myotis	*(Myotis velifer)*	Federal candidate category 2 No state status
Ferruginous hawk (wintering)	*(Buteo regalis)*	Federal candidate category 2 State threatened[6]
Loggerhead shrike	*(Lanius ludovicianus)*	Federal candidate category 2 No state status
Desert tortoise (Sonoran population)	*(Gopherus agassizii)*	Federal candidate category 2 State candidate
Chuckwalla	*(Sauromalus obesus)*	Federal candidate category 2 State candidate

[1] **Federal endangered species:** Species in danger of extinction throughout all or a significant portion of its range which are protected by Federal law, and must be considered prior to project development.

[2] **State endangered species:** Any species whose continued presence in Arizona is in jeopardy because of substantial population decline. Extirpation from the state is highly probably without recovery efforts.

[3] **Federal proposed endangered (or Category 1 species):** The U.S. Fish and Wildlife Service (USFWS) has sufficient information about biological vulnerability and threat(s) to support a proposal to list the species as endangered or threatened, but rules have not been issued.

[4] **Federal candidate category 2:** The USFWS does not have sufficient information to support a proposal to list the species.

[5] **State candidate:** Those species or subspecies for which threats are known or suspected but for which substantial population decline from historical levels have not been documented (though they appear likely to have occurred).

[6] **State threatened species:** Species whose continued presence in Arizona could be in jeopardy in the foreseeable future.

MAMMALS

Lesser long-nosed bat *(Leptonycteris curasoae yerbabuenae)* is a federal and state listed endangered species. Pregnant females arrive in late April and early May and feed on the nectar and pollen of columnar cacti, especially saguaros (Wilson 1985). Lesser long-nosed bats may fly long distances from their maternity roosts to feed, often in excess of 50 miles. Maternity roosts are generally located in natural caves or abandoned mine adits. In late July and early August, adult males arrive to join females and juveniles as they disperse from maternity roosts to feed on the nectar and pollen of agave flowers. At this time, the species' range expands east and north of the area occupied in spring (Cockrum and Petryszyn 1991). By mid to late September, the majority of bats have left Arizona and New Mexico and to return to Mexico.

No natural caves, abandoned mine adits, or agave were observed in the study area, and fewer than a dozen saguaros are located within the project site. Lesser long-nosed bats may visit the project area on occasion, but are not likely to rely on the study area for foraging or roosting habitat. The proposed project is unlikely to adversely impact lesser long-nosed bats.

California leaf-nosed bat (*Macrotus californicus*) is a federal candidate category 2 species and a state candidate species. It is a year-round resident of desertscrub habitats of southern and western Arizona, California, and Nevada (Arizona Game and Fish Department (AGFD 1988) where it roosts colonially in mine adits and caves. Roosting groups may consist of a few bats to 100 or more. Vaughan (1959) noted bats roosting in tunnels less than 20 feet deep. However, this species may also roost deep within tunnels more than several hundred feet long. In summer, even when pregnant and/or nursing young, this species readily moves between roosts and will select tunnels of various sizes. Little is known about the home range and seasonal movements of the species in Arizona (Hoffmeister 1986).

No caves or mine adits were observed in the study area. California leaf-nosed bats may visit the area while foraging, but are not likely to rely on the study area for roosting habitat. The proposed project is unlikely to adversely impact the California leaf-nosed bat.

Greater western mastiff-bat (*Eumops perotis californicus*) is a federal candidate category 2 species, but has no state status. In Arizona, the greater western mastiff-bat is a year-round resident. It feeds on insects and roosts in crevices and shallow caves in cliffs and rock walls, typically in upper Sonoran desertscrub. To initiate flight, the greater western mastiff-bat requires a vertical face or overhang that provides a drop of several feet (Hoffmeister 1986). Colonies generally consist of fewer than 100 individuals and can be recognized by extensive urine stains and large guano piles. The population trend and winter habits of this species are poorly known.

Potential greater western mastiff-bat roosting habitat is not present on or near the study area and the proposed project is unlikely to adversely impact this species.

Cave myotis (*Myotis velifer*) is a federal candidate category 2 species, but has no state status. Cave myotis typically occur in the desert areas of Arizona, though they seldom roost more than a few miles from water. Suitable water sources for this species include stock tanks and canals as well as natural water bodies. Suitable roost habitat includes mine shafts and adits as well as bridges and other similar structures.

The project area contains potentially suitable foraging habitat but does not contain suitable roost habitat. It is unlikely that the proposed project would adversely impact this species.

BIRDS

American peregrine falcon (*Falco peregrinus anatum*) is a federal listed endangered species and a state listed candidate species. Tall cliffs (typically over 150 feet but sometimes as low as 60 feet) are important habitat characteristics for American peregrine falcon (Johnsgard 1990). Within this habitat, the species selects nest sites (such as ledges, potholes, or small caves) that are inaccessible to mammalian predators and also provide some protection from weather extremes. Nests are usually, but not always, close to a water source and a prey base of small to medium-sized birds (Monson and Phillips 1981). In Arizona, breeding activity was documented at 179 locations in 1992 (Ward 1993). As a result of this large and expanding population, the USFWS and the Western Peregrine Falcon Recovery team are developing a draft addendum to the peregrine recovery plan in which the southwestern populations would be downlisted or delisted.

American peregrine falcons were not observed during field work on this site. There are no cliffs or rock outcrops suitable for nesting within or adjacent to the study area, or in the general vicinity. American peregrine falcons may visit the study area on occasion, but are not likely to rely on the study area for nesting or foraging habitat. The proposed project is unlikely to adversely affect American peregrine falcons.

Cactus ferruginous pygmy-owl (*Glaucidium brasilianum cactorum*) has been proposed for listing as endangered by the USFWS, and is listed as a state endangered species. Proposed Critical Habitat along the Gila River has been designated from the confluence with the San Pedro River downstream to the Ashurst-Hayden dam, approximately ten miles upstream from the project site.

In the United States, the cactus ferruginous pygmy-owl occurs in southern Arizona and extreme southwestern Texas. The range of this species extends southward in Mexico to Guerrero, Nuevo Leon, and southern Tamaulipas (Millsap and Johnson 1989). In Arizona, breeding pairs have recently been found only at Organ Pipe Cactus National Monument and northwest of Tucson. Historically in Arizona, these owls were reported to be most common in mesquite woodlands, cottonwood (*Populus* sp.) forests, and less commonly in palo verde-mixed scrub upland habitats. However, most recent observations of the species are from habitats dominated by mesquite, palo verde, ironwood, and catclaw acacia (Millsap and Johnson 1989).

The project area occurs within the general historical range of this species but habitats within the project area are not typical of habitats considered suitable for this species. Specifically, they lack dense saguaro stands or tree species which contain suitable nest habitat for this species. Although no surveys have been conducted for this species, its extreme rarity and the lack of apparently suitable habitat make it unlikely to occur in the project area.

Ferruginous hawk (*Buteo regalis)* is a federal candidate category 2 species. This species is fairly commonly found in open, grassy areas throughout southern Arizona in the winter (Monson and Phillips 1981).

While this species may occasionally forage over the project area, particularly in the winter, it is unlikely that the proposed project would adversely impact the ferruginous hawk.

Loggerhead shrike (*Lanius ludovicianus*) is listed by the Phoenix office of the U.S. Fish and Wildlife Service in their correspondence as a Candidate Category 2 species. The subspecies *migrans* is listed as a C2 species in the **Federal Register** "Animal Candidate Review for Listing as Endangered or Threatened.[1] This subspecies is not known to occur in Arizona. Other subspecies, not considered C2 species, are more or less common in Arizona (Monson and Phillips 1981). Loggerhead shrikes are likely to occur, at least occasionally, on the project site. However, is unlikely that the proposed project would adversely impact the loggerhead shrike.

REPTILES

Desert tortoise (Sonoran population) (*Gopherus agassizii)* is a federal candidate category 2 species, and a state candidate species. The desert tortoise occurs in a variety of habitats from southwestern Utah to northern Sinaloa, Mexico (Stebbins 1985). Those found south and east of the Colorado River constitute the Sonoran population which differs genetically, behaviorally, morphologically, and ecologically from those found north and west of the Colorado River (the Mojave population). The Sonoran population is typically found on steep, rocky slopes in the Arizona Upland subdivision of the Sonoran Desert at elevations ranging from approximately 900 to 3,500 feet, but the species has been recorded at elevations above 5,000 feet. Within the Arizona Upland subdivision, specific habitat features include palo verde-cacti-mixed scrub vegetation types and extensive rock outcrops, boulder piles, or caliche dens along arroyos with cavities and spaces large enough to provide cover.

Rock outcrops and boulder piles or other areas suitable for desert tortoise cover were not observed in the study area, nor was any sign of desert tortoise observed. Desert tortoise have been documented by AGFD

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[1] Individuals within the USFWS believe that this listing of only one subspecies was in error, and that the entire species should be listed as candidate (Brenda Andrews, USFWS, pers. comm.)

in the vicinity of the project area (T4S, R9E, Sections 26-29, 32-34) and may occasionally occur in the area, but are unlikely to rely on the study area for suitable cover habitat. The proposed project is unlikely to adversely impact desert tortoise, however, should desert tortoise be found on the project site during construction, tortoises will be relocated per the Guidelines for Handling Sonoran Desert Tortoises Encountered on Development Projects (AGFD, 1993).

Chuckwalla (*Sauromalus obesus*) is listed by the U.S. Fish and Wildlife Service as a Candidate Category 2 species, but has no special state status. It is fairly common in appropriate habits--rocky outcrops --in its known range. This lizard depends on crevices in and between rocks for its defense against predators, and is seldom found more than a few feet away from suitable crevices. Sand and gravel substrates are not suitable for this species.

The substrate of the project site is Quaternary alluvial sand and gravel. Because no rock outcrops are present on the proposed project site, no chuckwallas are likely to occur there. The proposed project is unlikely to have any impact on the chuckwalla.

CONCLUSION

Three habitat types were identified in the project area: Creosotebush, Xeroriparian Scrub, and Agricultural Fields. Creosotebush is the dominant habitat type in the study area. Xeroriparian scrub occurs along the margins of three small ephemeral drainages. The southern half of the study area is currently agricultural fields, primarily wheatfields. Throughout the entire site, signs of previous disturbance from berming, roadways, and well-site drilling are visible.

No threatened, endangered, or proposed endangered species are known to occur in the study area. Lesser long-nosed bats may visit the study area, but is not likely to rely on the study area for foraging or roosting habitat. Although there are no suitable nest sites in the study area, the American peregrine falcon may occasionally visit the area during migration. Habitats in the area are not typical of those used by the cactus ferruginous pygmy-owl.

All of the remaining seven species considered in this biological evaluation are Category 2 species. Category 2 species are afforded no legal protection under the Endangered Species Act. Of these seven species, five species (California leaf-nosed bat, greater western mastiff-bat, cave myotis, loggerhead shrike, and ferruginous hawk) may occasionally visit the study area and two species (chuckwalla and desert tortoise) are unlikely to occur on the project site because conditions there do not resemble preferred habitat of these species.

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APPENDIX A

COORDINATION LETTERS

Jose

UNITED STATES
DEPARTMENT OF THE INTERIOR
FISH AND WILDLIFE SERVICE
ARIZONA ECOLOGICAL SERVICES STATE OFFICE

2321 W. Royal Palm Road, Suite 103
Phoenix, Arizona 85021-4951

Telephone: (602) 640-2720 FAX: (602) 640-2730

Recd 6/15/95

June 5, 1995

In Reply Refer To:
AESO/SE
2-21-95-I-244

OPTIONAL FORM 99 (7-90)
FAX TRANSMITTAL # of pages ▶ 2

To John Kline	From Jose Gutierrez
Dept./Agency Magma	Phone # (415) 744-1829
Fax # (520) 868-5094	Fax # (415) 744-1235

NSN 7540-01-317-7368 5099-101 GENERAL SERVICES ADMINISTRATION

Ms. Doris Betuel
U. S. Environmental Protection Agency
75 Hawthorne Street, Mailcode W-6-3
San Francisco, California 94105-3901

Dear Ms. Betuel:

This letter responds to your May 23, 1995, request for information on listed or proposed threatened or endangered species and candidate species that may occur in the area of Florence, Pinal County, Arizona for Magma Copper Company's proposed in-situ copper mining project.

Our data indicate the following listed and candidate species may occur in the FMR area:

Endangered
Lesser long-nosed bat (*Leptonycteris curasoae yerbabuenae*)
American peregrine falcon (*Falco peregrinus anatum*)

Proposed Endangered
Cactus ferruginous pygmy-owl (*Glaucidium brasilianum cactorum*)

Candidate Category 2
Cave myotis (*Myotis velifer*)
Greater western mastiff-bat (*Eumops perotis californicus*)
California leaf-nosed bat (*Macrotus californicus*)
Loggerhead shrike (*Lanius ludovicianus*)
Ferruginous hawk (*Buteo regalis*) (wintering)
Desert tortoise (Sonoran population) (*Gopherus agassizii*)
Chuckwalla (*Sauromalus obesus*)

TOTAL P.01

Endangered and threatened species are protected by Federal law and must be considered prior to project development. Candidate species are those which the Fish and Wildlife Service (Service) is considering adding to the threatened or endangered species list. Category 1 candidates are those for which the Service has enough information to support a proposal to list. Category 2 species are those for which the Service presently has insufficient information to support a proposal to list. Although candidate species have no legal protection under the Endangered Species Act, they should be considered in the planning process in the event they become listed or proposed for listing prior to project completion.

If any proposed action may affect riparian areas, the following concerns should be noted. The Service is concerned about the protection of riparian habitats because they are rare and declining in the southwestern United States. Because many plant and animal species only occur or are more abundant in riparian areas, protecting and conserving riparian areas is critical to preserving genetic, species, population, and community diversity throughout Arizona. Maintaining hydrologic and other environmental conditions that support healthy riparian ecosystems is essential to the maintenance of healthy populations of plants, invertebrates, fish, amphibians, reptiles, birds, and mammals. Riparian areas also provide linear corridors critical to migratory species such as neotropical birds, waterfowl, and certain bats. The Service recommends that effects to riparian areas be avoided or mitigated.

The State of Arizona protects some species not protected by Federal law. We suggest you contact the Arizona Game and Fish Department and the Arizona Department of Agriculture for state-listed or sensitive species in the project area.

We appreciate your efforts to identify and avoid impacts to listed and sensitive species in your project area. In future communications on this project, please refer to consultation number 2-21-95-I-244. If we may be of further assistance, please contact Don Henry or Tom Gatz.

Sincerely,

Linda A. King

for Sam F. Spiller
State Supervisor

cc: Director, Arizona Game and Fish Department, Phoenix, Arizona

THE STATE OF ARIZONA

GAME & FISH DEPARTMENT

2221 West Greenway Road, Phoenix, Arizona 85023-4399 (602) 942-3000

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Thomas W. Spalding

February 27, 1995

Mr. John T. Kline
Environmental Project Manager
Magma Copper Company
Florence Project
14605 East Hunt Highway
Florence, Arizona 85232

Re: Special Status Species; Proposed Mine Site, Florence, Arizona

Dear Mr. Kline:

The Arizona Game and Fish Department (Department) has reviewed your letter, dated February 14, 1995, regarding special status species in the vicinity of the above-referenced area, and the following information is provided.

The Department's Heritage Data Management System has been accessed and current records show that the **Sonoran desert tortoise** (Gopherus agassizii) has been documented as occurring in the project vicinity (Township 4 South, Range 9 East, Sections 26-29, 32-34). As defined below, this species is identified as a Category 2 Candidate by the U.S. Fish and Wildlife Service (USFWS) under the Endangered Species Act (ESA), and is a State Candidate species in the Department's listing of **Threatened Native Wildlife in Arizona** (TNW). The desert tortoise is also considered U.S. Forest Service Sensitive by the Regional Forester when occurring on lands managed by the U.S.D.A. Forest Service. In addition, a copy of the Department's **Guidelines for Handling Sonoran Desert Tortoises** is included for your reference.

C2 - **Category 2 Candidate** as identified by the USFWS under ESA. Species being considered for listing as Threatened or Endangered pending more information.

SC - **State Candidate** on the Department's TNW list. Species with known or suspected threats, but for which substantial population declines from historical levels have not been documented.

GUIDELINES FOR HANDLING SONORAN DESERT TORTOISES ENCOUNTERED ON DEVELOPMENT PROJECTS

Arizona Game and Fish Department
Revised November 29, 1993

Desert tortoises of the Sonoran population are those occurring south and east of the Colorado River. Tortoises encountered on short-term projects (less than one week), and not in a burrow should be moved out of harm's way to adjacent appropriate habitat. A tortoise should be moved no further than necessary, not to exceed 0.1 mile from its original location. If it is necessary to move a tortoise more than 0.1 mile to safeguard that tortoise, the Arizona Game and Fish Department (Department) should be contacted to place the tortoise into a Department-regulated desert tortoise adoption program. Moving a tortoise should be done quickly, handling the tortoise as little as possible, while keeping the tortoise in an upright position at all times. If more than one tortoise is to be handled, separate disposable gloves should be worn for each one to avoid potential transfer of disease between tortoises.

If a burrow of a specific tortoise is determined to be in jeopardy of destruction, the tortoise should be relocated to the nearest appropriate alternate burrow, as determined by a qualified biologist. Failure to locate a suitable burrow nearby could mean death for a tortoise, especially during May, June or July, before the onset of the summer rains, or during the winter brumation (hibernation) in December, January and February. If a suitable burrow cannot be found nearby, the tortoise should be placed in an adoption program.

Tortoises salvaged from projects which result in substantial permanent habitat loss (e.g. housing and farm developments), or those requiring removal during long-term (longer than one week) construction projects, will also be placed in desert tortoise adoption programs. *Managers of projects likely to affect desert tortoises should apply for a Department handling permit to facilitate temporary possession of tortoises.* Likewise, if large numbers of tortoises (>5) are expected to be displaced by a project, the project manager should contact the Department for guidance and/or assistance.

Please keep in mind the following points:

- These guidelines do not apply to the Mohave population of desert tortoises which are found to the north and west of the Colorado River. Mohave desert tortoises are specifically protected under the Endangered Species Act, as administered by the U.S. Fish and Wildlife Service.

- These guidelines are subject to revision at the discretion of the Department. We recommend that the Department be contacted during the planning stages of any project that may affect the desert tortoise.

- Take, possession or harassment of a desert tortoise is prohibited by state law. Unless specifically authorized by the Department, or as noted above, project personnel should avoid disturbing any tortoise.

RAC:NLO:rc

Thank you for the opportunity to provide this information. If you have any questions, please contact me at (602) 789-3600.

Sincerely,

Nancy Olson

Nancy Olson
Project Evaluation Specialist
Habitat Branch

NLO:no

Enclosure

cc: Gerry Perry, Regional Supervisor, Region V, Tucson

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